

REMARKS/ARGUMENTS

Favorable reconsideration of this application is respectfully requested.

Claims 1-5 are present in this application and stand rejected under 35 U.S.C. §103(a) as unpatentable over U.S. 5,162,695 (Shimona et al.) in view of U.S. 6,031,326 (Suzuki et al.) and further in view of U.S. 6,455,995 (Jang et al.).

The applicants first refer the examiner to the remarks made in the previous response filed on July 9, 2003 where on pages 4 and 5 a brief discussion is presented. In short, the cathode ray tube apparatus includes a first electrode member having a projecting portion on its end face and physical contact with a second electrode member. Velocity modulation coils are provided as a separate body from the deflection yoke, are outside the electronic gun assembly and modulate the scan velocities of the electron beams. The magnetic field generated by the velocity modulation coils can be made to effectively act on the electron beams by intensifying the magnetic field. The apparatus provides a satisfactory velocity modulation effect.

Turning to the §103 rejection, the Office Action correctly finds Shimona et al. to not disclose or suggest velocity modulation coils or any electrode member having a projecting portion on an end face thereof in physical contact with a second electrode member. Grids G5 and G6 discussed in the Office Action are not in physical contact with each other and different voltages are applied thereto. Similarly, electrodes G5, G51 and G6 are not in physical contact with each other and different voltages are applied to these three electrodes. Accordingly, grids G5 and G6 or grids G5, G51 and G6 can not be considered the at least one electrode recited in claim 1. Further, Shimona et al. clearly lacks any disclosure of velocity modulation coils and the at least one electrode constructed by bringing into physical contact with each other first and second electrode members.

This was explained in detail on pages 5-6 of the response filed on July 9, 2003. In particular, according to lines 49-53 of column 6 in Shimona et al., a quadrupole lens is formed between G5 and G6, and the quadrupole lens diverges the electron beams more in the vertical direction than in the horizontal direction and it is necessary to apply different voltages to the electrodes of grids G5 and G6, in order to form an electron lens between them. Thus, it is impossible for the grids to be in physical contact with each other, and thus cannot be considered the at least one electrode recited in claim 1. Lines 1-3 of column 10 in Shimona et al. state that different voltages are applied to the G5, G51 and G6 electrodes. The electrodes G5, G51 and G6 cannot be in physical contact with each other, and also cannot be considered the at least one electrode of claim 1.

The Office Action newly cites the Suzuki et al. and Jang et al. patents, but neither of these references discloses an apparatus having velocity modulation coils and at least one electrode of an electron gun assembly constructed by bringing at least first and second electrode members in physical contact with each other, the first electrode member having a projecting portion on an end face thereof which is in physical contact with the second electrode member disposed adjacent to the first electrode member, as recited in claim 1. Moreover, neither reference contains any suggestion to modify the structure of Shimona et al. to obtain the apparatus of claim 1.

First, Suzuki et al. discloses a velocity modulation coil 90 and a gap VM between two electrode members. However, the two electrode members are merely connected by a connecting member, and are not in physical contact with one another. Thus, it may be difficult to reliably increase the mechanical strength of an electrode configured by the two electrode members. Hence, such a structure could cause assembly accuracy to deteriorate.

Even if such a coil could be combined with the structure of Shimona et al., the combination of Suzuki et al. and Shimona et al. would thus not suggest the apparatus of claim

1. Moreover, the Office Action identifies no suggestion that coil 90 would be applicable to the structure of Shimona et al., instead only citing to the benefit of including the coils in the structure of Suzuki et al. The Office Action has not provided sufficient motivation to combine Suzuki et al. and Shimona et al. to obtain the apparatus of claim 1.

Jang et al. discloses a solid dielectric 32, interposed between two electrodes G4 and G5-1. However, a gap is not formed between the two electrodes where the coils are to be placed, as taught by Suzuki et al. (see column 15, lines 17-21 where coil 90 is placed at a position corresponding to gap VM). Thus, when a velocity modulation coil is combined with these two electrodes of Jang et al., as proposed in the Office Action, it is difficult to make the magnetic field (generated from the velocity modulation coil) act effectively on the electron beams. Accordingly, a satisfactory velocity modulation effect cannot be obtained from a combination of the cited references.

The teachings of the references show that there is no motivation to combine the references in the manner set forth in the Office Action. The references do show that one skilled in the art would likely not make such a combination. Claim 1 is patentable over the teachings of Jang et al., even if combined with the teachings of Shimona et al. and Suzuki et al.

The Office Action makes no case for maintaining the rejection of claim 4, where both of the first and second electrode members have projecting portions, and the projecting portions of the first and second members correspond. Nowhere is any disclosure or suggestion of a second member with projecting portions identified. The rejection of claim 4 clearly must be withdrawn as none of the cited prior art discloses or suggests the claimed apparatus.

It is respectfully submitted that the present application is in condition for allowance, and a favorable decision to that effect is respectfully submitted.

Application No. 09/881,825  
Reply to Office Action of October 3, 2003

Respectfully submitted,

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